



U.S. Department  
of Transportation

400 Seventh Street, S.W.  
Washington, D.C. 20590

**Research and  
Special Programs  
Administration**

**NOV 3 0 2004**

DOT-E 10066  
(EIGHTH REVISION)

EXPIRATION DATE: October 31, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Conax Florida Corporation  
St. Petersburg, FL
2. PURPOSE AND LIMITATIONS:
  - a. This exemption authorizes the manufacture, mark, sale and use of non-DOT specification cylinders conforming with all regulations applicable to a DOT Specification 39 cylinder, except as specified herein, for the transportation in commerce of the materials authorized by this exemption. The non-DOT specification cylinder may be transported by itself or incorporated into a self inflating life raft assembly. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR 173.219(b)(1), 173.304a and 175.3 in that a non-DOT specification cylinder is not authorized except as specified herein.

5. BASIS: This exemption is based on the application of Conax Florida Corporation, dated November 17, 2004, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Compressed gas, n.o.s. (Carbon dioxide with a helium gas mixture)	2.2	UN1956	N/A
Life-saving appliances, self inflating	9	UN2990	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is a welded, stainless steel, non-DOT specification cylinder having a 20.4 to 22.0 cubic inch water capacity, conforming with Conax Florida Corporation (CFC) drawing 1612-046 Rev. F (P/N's 028-780210-2 and 028-820057-2), CFC drawing 1812-161 Rev. D (P/N 1812-161-01) and CFC drawings 1829-030-01, 1829-030-02, 1829-030-03 on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and with DOT Specification 39 (§§ 178.35 and 178.65), except as follows:

§ 178.65(a) *Type, size, service pressure and test pressure.*

The cylinder is a seamless shell with two end fittings butt welded by the plasma arc method. Maximum water capacity may not exceed 22 cubic inches. Marked service pressure is 2,100 psig. Proof test pressure after auto-frettage is 4,000 psig.

§ 178.65(b) *Material.*

The cylinder must be made from type 304L stainless steel tubing conforming with ASTM A 269 and Federal Specification QQ-S-766D.

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§ 178.65(c) *Manufacture.*

- (1) Two end fittings must be butt welded to the cylinder shell by the plasma arc method.
- (2) The thickness at the point of closure must be at least equal to the thickness of the cylindrical shell.
- (3) Each cylinder must be subjected to a process treatment after welding by pressurizing to approximately 375 percent of marked service pressure in a fixture which allows the cylinder to expand to 2 inches by maintaining pressure for at least 60 seconds. Process treatment must be witnessed by the inspector.
- (4) Welding or brazing, except for welding end fittings, is prohibited. End fittings may be attached by butt-welding only using the plasma arc method.

§ 178.65(d) *Wall thickness.*

Wall thickness must be measured after auto-fretage. Minimum thickness is 0.042 inches.

§ 178.65(e) *Openings and attachments.*

- (1) through (4) \* \* \*

ADD: (5) Each opening must be equipped with safety relief devices conforming with the device described in the application.

§ 178.65(f) *Pressure tests.*

- (1) \* \* \*

(2) If less than 200 cylinders are produced each day, one cylinder from each day's production must be pressurized to destruction until a pattern of uniform properties for manufacturing process is established. From then on, one cylinder taken from each lot must be pressurized to destruction. The entire lot must be rejected if:

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- (i) A failure occurs at a pressure less than 2.5 times the marked service pressure.
  - (ii) The failure initiates in a weld or weld heat-affected zone.
  - (iii) Failure is other than in the sidewall of the cylinder longitudinal with its long axis.
- (3) A "lot" is defined as a group of 200 cylinders successively produced per production shift (not exceeding 10 hours) having identical size, design, construction, material, heat treatment, finish and quality.

§ 178.65(i) *Marking.*

(1) \* \* \*

(2) \* \* \*

(i) Each cylinder must be marked "DOT-E 10066" instead of "DOT 39".

(ii) through (viii) \* \* \*

§ 178.65(j) *Intergranular corrosion test.*

Cylinders representing the starting material and production lots must be subjected to "test for resistance to intergranular corrosion" as prescribed in paragraph 4.5.2 of Federal Specification QQ-S-766D. Results of the test must show the material to be free from precipitated chrome carbides. Testing must be performed as follows:

- (1) The first three cylinders produced from each heat, coil, sheet, plate or other unit of starting material; and
- (2) One cylinder from each lot of 200 cylinders. The test cylinder must be sectioned through the weld and the weld-affected zone and tested for carbide precipitation. If test results of the

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first ten lots of each unit of starting material prove to be free from carbide precipitation, the sample size may be increased to one cylinder from each 500 produced.

8. SPECIAL PROVISIONS:

- a. The cylinders are limited to military life support systems only.
- b. For a cylinder designed to be refilled, each design must be qualified by subjecting a representative cylinder to a pressure reversal (cycle) test from approximately zero to service pressure at a rate not to exceed six cycles per minute. The tested cylinder must withstand at least 1,000 cycles without distortion. CONAX Florida Corporation may refill the cylinder a maximum of three times. Topping off is considered a refilling. The serial number of each cylinder that has been refilled must be reported to the OHMEA at the time of the next renewal application.
- c. Cylinders shipped separately (i.e., not as a life saving appliance) must be individually bubble wrapped and placed in double walled fiberboard box marked as a UN4G/Y/27.7/S. A maximum of 25 cylinders per box is authorized.
- d. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.
- e. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modification or change is made to the package or its contents and it is offered for transportation in conformance with this exemption and the HMR.
- f. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

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g. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

h. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, and cargo aircraft only.
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel and aircraft used to transport packages covered by this exemption. The shipper must furnish a current copy of this exemption to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
  - o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
  - o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o Registration required by § 107.601 et seq., when applicable.

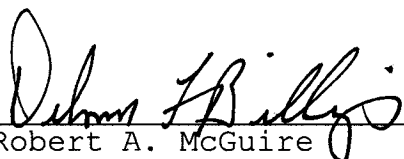
Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

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12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.:



b7 Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

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(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: SStaniszewski/sln